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Document Number 3

Entry 3 of 6

File: USPT

Mar 25, 1997

US-PAT-NO: 5615109

DOCUMENT-IDENTIFIER: US 5615109 A

TITLE: Method of and system for generating feasible, profit maximizing

requisition sets

DATE-ISSUED: March 25, 1997

INVENTOR-INFORMATION:

CITY STATE ZIP CODE NAME

COUNTRY

Eder; Jeff

Bellevue

WA

98007

N/A

APPL-NO: 8/ 448826

DATE FILED: May 24, 1995

INT-CL: [6] $\underline{G06}$ \underline{F} $\underline{15/00}$ US-CL-ISSUED: 395/208; 395/235US-CL-CURRENT: 705/8; 705/35

FIELD-OF-SEARCH: 364/401, 364/403, 364/404, 364/408, 395/925

REF-CITED:

U.S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
4989141	January 1991	Lyons et al.	364/ 4 08
5128861	July 1992	Kagami	364/403
5189608	February 1993	Lyons	364/408
5224034	June 1993	Katz	364/401
5237495	August 1993	Morii	364/401
5237496	August 1993	Kagami	364/401
5521813	May 1996	Fox et al.	364/401

ART-UNIT: 236

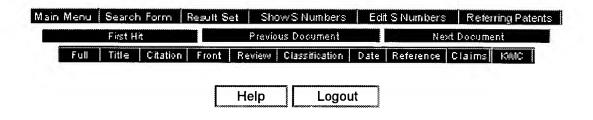
PRIMARY-EXAMINER: Gordon; Paul P.

ASSISTANT-EXAMINER: Prass, Jr.; Ronald E.

ABSTRACT:

In a computer based inventory control method and system, feasible profit maximizing sets of requisitions are created. System processing starts with the creation of detailed, multi-dimensional forecasts of sales and cash receipts using stored algorithms and data preferentially extracted from a basic financial system and the adjustment of the forecasts to match the controlling forecast specified by the user. The adjustment of the forecasts is facilitated by the use of a calculated variable that defines the magnitude of the relative adjustment for each forecast element. All forecasts are adjusted to exactly match a controlling forecast which is either a multivalent combination of the previously generated forecasts or the user specified controlling forecast. The adjusted forecast of sales by

item is then used in calculating a requisition set that satisfies expected demand while meeting user specified service level targets. A profit maximized requisition set is then created that utilizes vendor and unit of measure substitution under a variety of discount schedules to the extent possible within the user specified constraints. The processing completed by the system to determine the profit maximizing requisition set utilizes multi-objective, mixed-integer, linear programming techniques. A financial forecast is then calculated and displayed to determine if purchasing the profit maximizing requisition set will be feasible under the forecast financial conditions. Once the constraints and/or forecasts are adjusted as required to produce a feasible solution, processing advances to the profit enhancement stage where overall financial constraints are established and user specified constraints on commitment percentages, global unit of measure substitution and global vendor substitution are optionally relaxed and profit enhancing changes are calculated, stored and displayed. The user optionally accepts displayed enhancements and the financial forecast is recalculated to demonstrate the impact of the accepted changes before the requisitions are modified to reflect the accepted enhancements. 10 Claims, 13 Drawing figures



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Document Number 2

Entry 2 of 6

File: USPT

Jun 9, 1998

US-PAT-NO: 5765143

DOCUMENT-IDENTIFIER: US 5765143 A

TITLE: Method and system for inventory management

DATE-ISSUED: June 9, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Sheldon; David E.	Danville	CA	N/A	N/A
Leach; James	San Ramon	CA	N/A	N/A
Pisarsky; Vladimir	Mountain View	CA	N/A	N/A

ASSIGNEE INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Triad Systems Corporation	Livermore	CA	N/A	N/A	02

APPL-NO: 8/ 402025

DATE FILED: March 10, 1995

PARENT-CASE:

CROSS-REFERENCE TO PRIOR APPLICATION This is a continuation-in-part application, whose parent is the U.S. patent application Ser. No. 08/396,453 now abandoned filed on Feb. 28, 1995, entitled "METHOD AND SYSTEM FOR INVENTORY MANAGEMENT, " which names four co-inventors (including the three inventors named in the present application).

INT-CL: [6] $\underline{G06}$ \underline{F} $\underline{17/60}$ US-CL-ISSUED: 705/28; 705/10, 705/22 US-CL-CURRENT: $\underline{705/28}$; $\underline{705/10}$, $\underline{705/22}$ FIELD-OF-SEARCH: 364/41R, 364/402, 364/403, 395/210, 395/228, 705/10,

705/16, 705/22, 705/28

REF-CITED:

U.S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
4972504	November 1990	Daniel, Jr. et al.	455/2
5128861	July 1992	Kagami et al.	705/10
5168445	December 1992	Kawashima et al.	364/403
5406475	April 1995	Kouchi et al.	395/208
5537313	July 1996	Pirelli	395/228
5615109	March 1997	Eder	705/8

ART-UNIT: 271

PRIMARY-EXAMINER: Voeltz; Emanuel T. ASSISTANT-EXAMINER: Bainbridge; Barton L. ATTY-AGENT-FIRM: Limbach & Limbach L.L.P.

ABSTRACT:

A computer system and computer-implemented method for controlling inventory of vendors at one level of a part distribution chain. The system includes a computer programmed with software for generating order data in response to reference data indicative of sales, inventory, demographics, and/or market characteristics of or pertaining to at least two vendors at the same distribution level. The order data is indicative of one or more of a recommended inventory increase transaction (such as a reorder by a vendor of a sold part); an inventory reduction transaction (such as a return of one or more parts in stock at the vendor); and a recommended stocking level of one or more parts by the vendor. When the computer is operated by personnel of a first vendor, it receives reference data concerning at least one other vendor at the same distribution level (in addition to processing reference data concerning the first vendor. When the computer is a host computer, it receives reference data from two or more vendors at the same distribution level. Preferably, the computer which generates the order data is programmed to generate the order data by processing forecast data which is generated by processing the reference data. To generate the forecast data, the computer preferably implements a point-of-sale based method or an actuarial method to determine a forecast of sales of a part by a vendor in a selected time

29 Claims, 3 Drawing figures

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Document Number 5

Entry 5 of 6

File: USPT

Sep 12, 1995

US-PAT-NO: 5450317

DOCUMENT-IDENTIFIER: US 5450317 A

TITLE: Method and system for optimized logistics planning

DATE-ISSUED: September 12, 1995

INVENTOR-INFORMATION:

STATE ZIP CODE COUNTRY NAME CITY Lu; Lu Boulder CO N/A N/A Qiu; Yuping Louisville CO N/A N/A Cox, Jr.; Louis A. Denver CO N/A N/A

ASSIGNEE INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY TYPE CODE

U S West Advanced Technologies, Boulder CO N/A N/A 02

Inc.

APPL-NO: 8/ 158128

DATE FILED: November 24, 1993

INT-CL: [6] $\underline{G06}$ \underline{F} $\underline{15}/\underline{20}$, $\underline{G06}$ \underline{G} $\underline{7}/\underline{418}$

US-CL-ISSUED: 364/402; 364/401 US-CL-CURRENT: 705/10; 705/28

FIELD-OF-SEARCH: 364/401, 364/402, 364/468, 364/403, 364/408

REF-CITED:

U.S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
4646238	February 1987	Carlson, Jr. et al.	364/403
4887207	December 1989	Natarajan	364/401
5068797	November 1991	Sansone et al.	364/478
5072401	December 1991	Sansone et al.	364/478
5101352	March 1992	Rembert	364/401
5193065	March 1993	Guerindon et al.	364/468
5216593	June 1993	Dietrich et al.	364/402
5224034	June 1993	Katz et al.	364/401

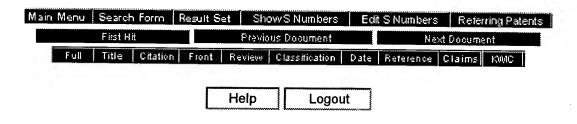
ART-UNIT: 231

PRIMARY-EXAMINER: Hayes; Gail O. ASSISTANT-EXAMINER: Tkacs; Stephen R. ATTY-AGENT-FIRM: Brooks and Kushman

ABSTRACT:

An improved <u>logistics</u> planning method and system for recommending optimal order quantities and timing, choice of vendor locations and storage locations, and transportation modes, for individual items and for product families. The system is designed for use in cooperation with the computer having memory and incorporates item, customer, supplier, and routing information databases. In operation, the item, customer and supplier databases are accessed in order to provide customer and warehouse demand forecasts. The routing and customer databases are similarly accessed to provide transportation cost forecasts necessary to determine optimized routing modes for selected items, customers and suppliers. The demand and transportation costs are processed in accordance with a dynamic programming model to determine stock and non-stock order/shipment solutions for the selected items and customers, including optimized supplier and routing selection, order timing and quantity.

5 Claims, 5 Drawing figures



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Document Number 1

Entry 1 of 6

File: USPT

Sep 14, 1999

US-PAT-NO: 5953707

DOCUMENT-IDENTIFIER: US 5953707 A

TITLE: Decision support system for the management of an agile supply chain

DATE-ISSUED: September 14, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Huang; Ying	Yorktown Heights	NY	N/A	N/A
Desiraju; Ramakrishna	North Tarrytown	NY	N/A	N/A
Begue; Christophe	White Plains	NY	N/A	N/A
Bakkalbasi; Omer	Mahopac	NY	N/A	N/A
Chan; Lap Mui Ann	Ossining	NY	N/A	N/A
Bhaskaran; Krishnakumar	Tarrytown	NY	N/A	N/A
Federgruen; Awi	Holliswood	NY	N/A	N/A
Krasinski; Raymond J.	Suffern	NY	N/A	N/A
Boey; Peter	Scarborough	NY	N/A	N/A

ASSIGNEE INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY TYPE CODE Philips Electronics North New York NY N/A N/A 02 America Corporation

APPL-NO: 8/ 802961 DATE FILED: February 21, 1997

PARENT-CASE:

This application depends from U.S. Provisional Patent Application No. 60/012,327 entitled, "Decision Support System for the Management of an Agile Supply Chain", filed Feb. 27, 1996; U.S. Provisional Patent Application No. 60/022,787 entitled, "Decision Support System for the Management of an Agile Supply Chain", filed Jul. 30, 1996; U.S. Provisional Patent Application No. 60/008,101, filed Oct. 30, 1995; and U.S. Provisional Patent Application No. 60/005,860 entitled, "Decision Support Systems", filed Oct. 26, 1995, all filed on the behalf of the Assignee of this application.

INT-CL: [6] G06 F 17/60

US-CL-ISSUED: 705/10; 705/1, 705/7, 706/925 US-CL-CURRENT: 705/10; 705/1, 705/7, 706/925 FIELD-OF-SEARCH: 705/10, 705/7, 705/8, 705/1, 706/925, 706/926

REF-CITED:

U.S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
T998008	September 1980	DeLano, Jr.	705/7
<u>5208765</u>	May 1993	Turnbull	N/A
5216612	June 1993	Cornett et al.	364/468.02
5231585	July 1993	Kobayashi et al.	364/468.02
5237497	August 1993	Sitarski	705/8
5249120	September 1993	Foley	705/1
5278751	January 1994	Adiano et al.	705/10
5311438	May 1994	Sellers et al.	705/8
5321605	June 1994	Chapman et al.	705/7
5325292	June 1994	Crockett	N/A
5331545	July 1994	Yajima et al.	705/8
5369570	November 1994	Parad	705/8
<u>5463555</u>	October 1995	Ward et al.	364/468.02
5586021	December 1996	Fargher et al.	364/468.06
5712985	January 1998	Lee et al.	705/10
5717865	February 1998	Stratmann	705/10
<u>5737727</u>	April 1998	Lehmann et al.	705/7
<u>5765143</u>	June 1998	Sheldon et al.	N/A
5787283	July 1998	Chin et al.	364/468.02

ART-UNIT: 275

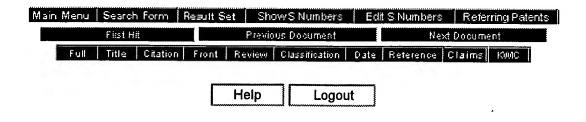
PRIMARY-EXAMINER: MacDonald; Allen R.

ASSISTANT-EXAMINER: Crecca; Michele Stuckey

ATTY-AGENT-FIRM: Thorne; Gregory L.

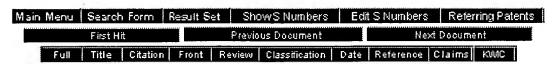
ABSTRACT:

A decision support system for the management of an agile supply chain that provides an architecture including a server side and a client side. The server side includes a decision support system database that interfaces with a model engine that performs analysis of the data to support planning decisions. The server side includes a server manager that coordinates requests for service and information. The client side includes decision frames that present the various view points available in the system to the users. A frame manager coordinates the requests from decision support frames to access the needed data and models. The decision support frames provide a view into the supply chain and integrate analytical models responsive to the view point of a business process such as demand management. The frames include a supply management frame, a demand management frame, a vendor managed replenishment frame, a Planning, Sales and Inventory planning frame, and a distribution network design frame. The frame manager includes a system integrator and a functional integrator. A database management system manages the supply and maintenance of information needed by the modeling processes through the frame manager. A domain management process limits data available to saidl frame responsive to a user selection. The system also includes a demand and supply reconciliation process; a capacity planning process; a vendor managed replenishment process; and a scenario management process. 19 Claims, 70 Drawing figures



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Document Number 4

Entry 4 of 5

File: USPT

Aug 31, 1993

DOCUMENT-IDENTIFIER: US 5241467 A TITLE: Space management system

DEPR:

As shown in FIG. 10, for a particular store a product price list 133 may have entries, one for each product in the store. The entry has a field listing a product code number (such as a Uniform Product Code) and the price that is to be displayed for that product. Although not shown in FIG. 10, it is preferable that numerous additional fields be provided, containing a plain- English description of the product, a stock number used by store management, the date and direction of the most recent price change for that product, and the desired amount in inventory.

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Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC
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Document Number 5

Entry 5 of 5

File: DWPI

Apr 20, 1995

DERWENT-ACC-NO: 1997-106341

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TITLE: Setting method of sale price in vending machine - initialising input=outpu t of CPU by applying constant voltage, displaying sales management data and dispensing corresp. small change, and transferring to setting mode of sales price

ABTX:



The method for setting the sales price easily with the push button includes initialising the I/O of a CPU by applying the constant voltage. The sales management data is displayed or the corresponding small change is dispensed if the D of the inventory switch is on, and system transfers to the setting mode of the sales price and displays the preset prices according to each inventory switch stage to set the new price.

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US-PAT-NO: 5450317

DOCUMENT-IDENTIFIER: US 5450317 A

TITLE: Method and system for optimized logistics planning

Full Title Citation Front Review Classification Date Reference Claims KMC Image 6. Document ID: US 5043908 A Entry 6 of 6 File: USPT Aug 27, 1991 US-PAT-NO: 5043908 DOCUMENT-IDENTIFIER: US 5043908 A TITLE: Mail delivery system with arrival monitoring Full Title Citation Front Review Classification Date Reference Claims KMC Image **Generate Collection Terms Documents** logistic and 12 6 **Display 10 Documents** including document number Display Format: TI **Change Format** Main Menu Search Form Posting Counts Show S Numbers Edit S Numbers Help Logout

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1. Document ID: US 5918209 A

Entry 1 of 4

File: USPT

Jun 29, 1999

US-PAT-NO: 5918209

DOCUMENT-IDENTIFIER: US 5918209 A

TITLE: Method and system for determining marginal values for use in a revenue

management system

Full Title Citation Front Review Classification Date Reference Claims KMC Image

2. Document ID: US 5615109 A

Entry 2 of 4

File: USPT

Mar 25, 1997

US-PAT-NO: 5615109

DOCUMENT-IDENTIFIER: US 5615109 A

TITLE: Method of and system for generating feasible, profit maximizing requisition

sets

Full Title Citation Front Review Classification Date Reference Claims KWC Image

3. Document ID: US 5270921 A

Entry 3 of 4

File: USPT

Dec 14, 1993

US-PAT-NO: 5270921

DOCUMENT-IDENTIFIER: US 5270921 A

TITLE: Virtual fare methods for a computerized airline seat inventory control system

Full Title Citation Front Review Classification Date Reference Claims KWIC Image

4. Document ID: US 5255184 A

Entry 4 of 4

File: USPT

Oct 19, 1993

US-PAT-NO: 5255184

DOCUMENT-IDENTIFIER: US 5255184 A
TITLE: Airline seat inventory control method and apparatus for computerized airline

reservation systems

Full Title Citation Front Review Classification Date Reference Claims KMC Image	
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USPT	generat\$ and 14	6	<u>L5</u>
USPT	yield and 13	, 7	<u>L4</u>
USPT	11 and 12	18	<u>L3</u>
USPT	price and forecasting	161	<u>L2</u>
USPT	(inventory with management) or (inventory with management with system)	847	<u>L1</u>





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1. Document ID: US 5953707 A

Entry 1 of 6

File: USPT

Sep 14, 1999

US-PAT-NO: 5953707

DOCUMENT-IDENTIFIER: US 5953707 A

TITLE: Decision support system for the management of an agile supply chain

Full Title Citation Front Review Classification Date Reference Claims KMC Image

2. Document ID: US 5950190 A

Entry 2 of 6

File: USPT

Sep 7, 1999

US-PAT-NO: 5950190

DOCUMENT-IDENTIFIER: US 5950190 A

TITLE: Dynamic, self-modifying graphical user interface for relational database

applications

Full Title Citation Front Review Classification Date Reference Claims KMC Image

3. Document ID: US 5852824 A

Entry 3 of 6

File: USPT

Dec 22, 1998

US-PAT-NO: 5852824

DOCUMENT-IDENTIFIER: US 5852824 A

TITLE: Apparatus and method for processing year-date data in computer systems

Full Title Citation Front Review Classification Date Reference Claims KWC Image

4. Document ID: US 5726884 A

Entry 4 of 6

File: USPT

Mar 10, 1998

US-PAT-NO: 5726884

DOCUMENT-IDENTIFIER: US 5726884 A

TITLE: Integrated hazardous substance tracking and compliance

Full Title Citation Front Review Classification Date Reference Claims KMC Image

5. Document ID: US 5450317 A

Entry 5 of 6

File: USPT

Sep 12, 1995